

Application No. 10/768,500
Amendment Dated April 28, 2005
Reply to Office Action of November 29, 2004

Amendments to the Drawings:

Attachment: Replacement Sheet

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REMARKS

The Office Action mailed November 29, 2004, has been carefully considered by Applicant. Reconsideration is respectfully requested in view of the foregoing amendments to the claims and drawings, and the remarks that follow.

The Examiner asks for a clear line of demarcation between the present Application and the related Application Serial No. 10/768,501. The present Application and the related application both relate to a connector clip for verifying complete connection between a connector and a pipe. Each application claims different inventive aspects of a connector clip. For example, the present Application claims an axial distance between the opposite clip portion of the clip body and an opposite axial end of the connection verifying portion being designed shorter than an axial length between the annular engagement projection and the annular verification projection of the pipe, and being designed equal to or longer than an axial distance between the inserting end of the pipe and an opposite axial end of the sealing member. The related application claims a connector clip comprising a clip body and a connection verifying body being integrally connected by a connection part at an opposite position of openings of the clip body and connection verifying body.

Objection to the Drawings

Drawing Figures 24 and 25 are presently amended as depicting prior art in accordance with the requirement in the Office Action. No new matter is added by these amendments. The drawings are thus believed in condition for allowance.

Claim Rejections Under 35 U.S.C. §112

Claims 1-9 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. More specifically, the Examiner objects to the language "receiving a held portion from a large diameter portion" in claims 1 and 5. By the present Amendment, claim 1 is cancelled and claim 5 is amended to remove the above-referenced language and conform the claim to the requirements of §112.

The Examiner has also rejected claim 1 as including a lack of antecedent basis. As stated above, claim 1 has been cancelled, thus rendering the rejection moot.

The claims, as currently presented, are therefore believed in conformance with §112, second paragraph.

Claim Rejections Under 35 U.S.C. §102

Claims 1-9 have been rejected under 35 U.S.C. §102(b) as being anticipated by Japanese Patent No. 11-006591. By the present Amendment, claims 1 and 6-9 are cancelled, claims 2-5 amended, and claims 10-17 added to more particularly point out and distinctly claim the subject matter which Applicant regards as the invention, and to render the same allowable over the applied reference.

Claim 2 recites a connector clip for verifying complete connection between a connector and a pipe. Notably, an axial length (see, e.g., Fig. 11, L1) between an opposite clip portion of the clip body and an opposite axial end of the connection verifying portion is designed shorter than an axial length (see, e.g., Fig. 11, M1) between the annular engagement projection and the annular verification projection of the pipe, and is designed equal to or longer than an axial distance (see, e.g., Fig. 4, N) between the inserting end of the pipe and an opposite axial end of the sealing member. The claimed arrangement provides the advantages described, for example, in paragraph 00014 of the present Application.

In such construction, if the pipe is incompletely connected to the connector, the annular verification projection of the pipe is located toward an opposite axial side, and on an opposite axial side of the connection verifying portion of the connector clip (on an opposite axial side from or beyond the connection verifying portion of the connector clip), a portion of the pipe between the annular engagement projection and the annular verification projection is allowed to pass through or move between a pair of the restraining portions. And, consequently, it might happen that the connector clip is mounted to the connector and the pipe. However, an axial distance from the clip portion disposed on an opposite axial end portion or position of the clip body to an opposite axial end of the

connection verifying portion (restraining portion) is designed equal to or longer than an axial distance between the inserting end of the pipe and an opposite axial end of the sealing member. So, in this case, the inserting end of the pipe is retracted to a position on an opposite axial side of an opposite axial end of the sealing member (a position on an opposite axial side from or beyond an opposite axial end of the sealing member). Accordingly, at inspection to verify connection between a connector and a pipe by flowing inspection fluid in the connector and the pipe, the inspection fluid leaks out between the connector and the pipe, and thereby it is verified that the pipe is incompletely connected to the connector.

The claimed structure and the advantages provided thereby, discussed above and in the present Application are neither taught nor suggested, nor provided by the arrangement taught in the Japanese patent. Referring by way of example to paragraph 0006 of the present application, and the attached Figures A and B, according to the connector clip of the Japanese patent, an axial length L' of a connection verifying portion is larger than an axial length between an annular engagement projection 22 and an annular verification projection 23 of the pipe 20 (Fig. A), and shorter than an axial distance N' between an inserting end of the pipe 20 and an opposite axial end of a sealing member (Fig. B). This is quite clearly the opposite of the claimed invention and provides the disadvantages discussed in paragraph 0007 of the present application, and for example is not useful if the connection verifying portion must be designed short in order not to cause interference between an opposite axial end portion of the connection verifying portion and a bent portion of the pipe when the connector clip is mounted to the connector and the pipe in complete connecting relation.

Claims 3, 4 and 10 depend directly or indirectly from claim 2 and are thus believed allowable for the reasons stated above, as well as the subject matter recited therein.

Claim 5

Claim 5 recites a connector connecting structure for verifying complete connection between a connector and a pipe by way of a connector clip. The connector clip comprises an axial distance between the opposite clip portion of the clip body and an opposite axial

end of the connection verifying portion that is shorter than the axial length between the annular engagement projection and the annular verification projection of the pipe, and is equal to or longer than an axial distance between the inserting end of the pipe and an opposite axial end of the sealing member.

In accordance with the comments provided above regarding claim 2, claim 5 is also believed allowable over the applied Japanese patent reference.

Claim 11

Claim 11 recites a connector clip for verifying complete connection between a connector and a pipe. An axial distance (see, e.g., Fig. 17, L2) between the opposite clip portion and opposite axial ends of the restraining lugs is designed longer than an axial length (see, e.g., Fig. 22, M2) between the annular engagement projection and the annular verification projection of the pipe, and a distance between a pair of reinforcement ribs is designed shorter than an outer diameter of the annular verification projection of the pipe. The claimed arrangement provides the several advantages described in paragraphs 00017 and 00079 of the present Application, and most notably that as long as the pipe is incompletely connected to the connector, the connector clip cannot be mounted to the connector and the pipe.

The above arrangement and the advantages provided thereby is neither taught nor suggested, nor provided by the cited Japanese patent. As shown by way of example in attached Fig. C, the connector clip of the Japanese patent teaches a distance between reinforcement ribs that is larger than the annular verification projection 23, which results in the failures stated in paragraph 9 of the present Application. These failures are not encountered by the claimed invention.

Claims 12-17

Claims 12-17 depend directly from claim 11 and are thus believed allowable for the reasons stated above, as well as the subject matter recited therein.

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Conclusion

The present Application is thus believed in condition for allowance with claims 2-5 and 10-17. Such action is respectfully requested.

Respectfully submitted,

ANDRUS, SCEALES, STARKE & SAWALL, LLP

By



Peter T. Holsen
Reg. No. 54,180

Andrus, Sceaux, Starke & Sawall, LLP
100 East Wisconsin Avenue, Suite 1100
Milwaukee, Wisconsin 53202
Telephone: (414) 271-7590
Facsimile: (414) 271-5770